

Applicant: T. Allan Hamilton
Serial No.: 09/135,154
Filing Date: August 17, 1998
Docket No.: ZIL-254 (formerly CLB5-B73)

REMARKS

Reconsideration and allowance is respectfully requested. The listing of claims replaces all prior versions and listings of claims in the application. No claims are cancelled or withdrawn by this amendment¹. A typo in Claim 52 is fixed. New Claims 58-60 are added.

The Latest Office Action

The latest Office Action (dated 8/27/04) could have been more responsive and helpful in resolving issues in this application. Pages 3-6 of the Office Action are just a block copy of the Examiner's prior argument.

The so-called "Response to Arguments" section of the Office Action does not answer or address particular deficiencies identified by the Applicant in the Examiner's hindsight combination of references. The "Response to Arguments" section references some of Applicant's queries, but the Office Action nonetheless fails to answer the queries. Moreover, the Office Action fails to address directly the identified deficiencies in the §103 combinations advanced by the Examiner. As such, the Office Action is little more than a repetition of the Examiner's previous argument.

Applicant requests that the Examiner address directly Applicant's queries and criticisms of the §103 rejections so that the issues in this case can be resolved.

No Recognition of the Problem Identified by the Inventor

In a proper §103 analysis, recognition of the problem or lack thereof in the prior art must be considered. If an inventor recognizes or appreciates a problem missed or not properly appreciated by others, and if the inventor then solves the problem, then the inventor has in many cases made a valuable, nonobvious and

¹ The statement in the prior amendment that no claims are added was clearly wrong. The prior amendment added claims. The undersigned apologizes for the misstatement.

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patentable invention. Invention can be had even if the solution to the problem, once recognized, is simple and evident. Whether there is a recognition of the problem in the prior art is therefore an important issue for consideration.

Accordingly, Applicant's prior amendment carefully discusses each of the references the Examiner uses. In the prior amendment, Applicant explained that **"there is no recognition in any cited reference that there is anything wrong with IrDA transceivers or any need to modify an IrDA transceiver"**. In the prior amendment, Applicant represented to the Examiner that "there is no recognition that there could be two different IrDA module power modes utilized during the discovery procedure". Applicant even explained why the IrDA specification would not have suggested a low-power mode during the IrDA discovery process. The discovery "procedure" involves an interchange of information back and forth between devices, and it would appear that both the receiver and transmitter of the IrDA module of both devices would need to be operational.

After going through each cited reference and stating that there is no recognition in any of the cited references that there is anything wrong with IrDA transceivers or any need to modify an IrDA transceiver, the Applicant asked the Examiner either to admit as much or to set forth where the recognition is found in the prior art. Applicant's prior amendment therefore asks:

"If the Examiner sees any suggestion in the IrDA specification about an IrDA transceiver module operating in a lower-power mode during the discovery process, then Applicant respectfully requests that the Examiner respond in the next Office Action with an indication of where that suggestion is."

The response from the Examiner is a statement "it can be argued that..."², but the Examiner fails to point to a specific place in the IrDA specification. "It can be argued that" amounts to hand waiving. "It can be argued that" is not helpful in resolving the issue. Applicant respectfully repeats the question. ***If the Examiner***

² "...it can be argued that the IRDA specification does teach low power mode (read receiving only) and high power mode (receiving and transmitting) where the transceiver is switched between the two modes in response to the reception of the discovery signal."

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sees any suggestion in the IrDA specification about an IrDA transceiver module operating in a lower-power mode during the discovery process, then Applicant respectfully requests that the Examiner respond in the next Office Action with an indication of specifically where that suggestion is.

The reason Applicant is pressing this point is that Applicant submits that there is no recognition in any of the cited references of the problem recognized by the inventor. Applicant wants an admission of such from the Examiner. If, on the other hand, the Examiner will not so admit, then Applicant wants to know where that recognition of the problem is found. "It can be argued that" is just hand waiving.

Impermissible "Picking And Choosing"

It is impermissible for an Examiner to use an Applicant's patent application as an instruction book on how to reconstruct the prior art. An Examiner is not to engage in a hindsight analysis, and to use his hindsight knowledge of Applicant's invention to pick and choose parts of assorted prior art references as a mosaic to recreate a facsimile of Applicant's invention. It is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly would have suggested to one of ordinary skill in the art at the time the invention was made.

In the present case, Applicant respectfully submits that picking and choosing is precisely what the Examiner has done. Applicant therefore asked in the prior amendment where the Examiner got the idea that power consumption in an IrDA transceiver module should be or could be reduced? That idea is not found in any cited reference. Applicant submits that the Examiner got the idea from Applicant's specification, and that the Examiner then used Applicant's idea against him to pick and choose from the five references only as much of each reference that would support the Examiner's position, to the exclusion of other parts of the reference. Such picking and choosing to recreate a claimed

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invention is improper.

To illustrate the improper picking and choosing, Applicant went through each of the Examiner's references and pointed out other parts of the references that the Examiner's chose to ignore, where the other parts tend to lead away from the Examiner's hindsight combination. The Examiner's response, rather than specifically addressing why certain aspects of references were extracted and used in the combination whereas other aspects were ignored, states things like "Selin **is not cited for** teaching IRDA protocol", and "Kuhla **is not cited for** teaching the specifics of IRDA protocol" and "The examiner **does not cite** the IRDA specification **for** teaching power saving".

In response, it is respectfully submitted that the Examiner's insistence that this reference "is not cited for" this, and that that reference "is not cited for" that, is making Applicant's point. The Examiner has carefully chosen NOT to use certain aspects of the various references. Why? Applicant submits that the reason is that the Examiner knew beforehand what resulting combination he wished to recreate, and the Examiner knew that had he chosen other aspects of the references then the resulting combination would not have ended up to be the combination claimed by Applicant.

Consider, for example, the Kohler reference. Kohler detects a "wake-up pulse" that has an especially large power level. The pulse with the large power level causes the Kohler device to detect this pulse separate and apart from other lower power signals. There is no suggestion in Kohler that anything other than a special power level can be used to identify the wake-up pulse. If one of ordinary skill were to use the Kohler teaching in connection with IrDA, then the logical result would be a large non-IrDA compliant wake-up pulse. That is the most straight forward application of Kohler as Applicant sees it. How is it that the Examiner picks detecting a wake-up pulse, to the exclusion of a large power level pulse? Had Applicant's invention involved a large power level pulse, would that large power level pulse not have been part of the hypothetical combination? The undersigned's fear is that any possible permutation of elements of the various

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references that happens to amount to a claim before the Examiner will be deemed to be suggested, and therefore unpatentable, by the Examiner. That kind of analysis is improper.

Consider for example the Selin reference. Selin relates to a cell phone or some kind of communication device that cannot receive when it is in the "sleep mode". After being in its "sleep mode" for some period of time, it actually wakes up to full power mode in order to potentially detect an incident signal. If no signal is detected during its short period of full power mode operation, then the Selin device switches back to the lower power sleep mode. If one of ordinary skill were to use the Selin teaching in connection with IrDA, then the logical result would be an IrDA transceiver module that periodically wakes up into full power mode in order to potentially detect an incident signal. Selin would not be detecting in its sleep mode. How is it then that the Examiner picks using a specially coded signal to wake up a communication unit out of Selin, to the exclusion of the full power mode periodic monitoring feature that is central to Selin? Had Applicant's invention involved periodically detecting discovery signals in a full power mode, would that periodic full power monitoring not have been part of the hypothetical combination?

Applicant submits, as set forth in detail in the prior amendment and above, that the rejection is based on an improper hindsight analysis. The particular parts picked out of the references are not suggested by the prior art. Withdrawal of the improper Kohler/IrDA Spec/Selin/Kuhla §103 rejection is requested.

Nykanen Does Not Disclose An "IRDA Transceiver Module" Having Two Different Power Consumption Modes

In the previous Office Action (dated 2/10/04), the Examiner rejected Claim 50 under 35 U.S.C. §103 over a combination of Nykanen (USP 5,706,110) and Kuhla (USP 5,973,611). Applicant traversed the §103 rejection and explained that Nykanen nowhere discloses or suggests an IrDA transceiver having two different power consumption modes. Applicant stated that "Nykanen cannot

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control power consumption of the underlying IR link.” (previous Amendment, page 7, lines 13-14). Applicant then, in the event that the Examiner had seen something in Nykanen that Applicant missed, requested “If the Examiner can identify any place in Nykanen that Nykanen teaches that an ***IrDA transceiver module*** can have two different power consumption modes, then the Examiner is requested to set those passages forth in the next Office Action. ” (emphasis added; previous Amendment, page 7, lines 16-20).

The Examiner responded in the present Office Action of 8/27/04 by citing the paragraph of Nykanen bridging columns 3 and 4. The passage set forth by the Examiner is the same passage (col. 4, lines 4-15) identified and explained previously by Applicant in the previous amendment. The Examiner is thanked for responding to the question.

In response, Applicant repeats that Nykanen’s reference to a “low-power sleep mode” as identified by the Examiner in col. 4, lines 4-15, is **NOT** A DISCLOSURE OF AN IRDA TRANSCEIVER MODULE HAVING TWO DIFFERENT POWER CONSUMPTION MODES. The passage cited by the Examiner states that the “stations” or at least parts of the “stations” connected with the physical transmission medium “can go over to a low-power sleep mode which is available to them.” Figure 2 shows one “station” of the IR link. Note that the “station” includes a stack of protocol processing layers 1 thru 7. Note that there is no disclosure of an IrDA transceiver module that has two different power consumption modes. Quite to the contrary, upon further reading, it is evident that what is being woken up in the Nykanen station is higher layers of the IrDA software stack. Note that the power manager block (sometimes denoted PM) in Figure 2 is disposed in the IrDA stack of protocol processing layers. Nykanen’s power manager block (PM block) wakes up upper layers of the stack if it detects activity on the underlying infrared link. There is no disclosure of changing the power consumption of the underlying infrared link.

The Examiner’s attention is directed to the next sentence of the passage pointed to by the Examiner, col. 4, lines 11-13. That sentence states “The

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stations are woken up by means of an indication of activity of the physical layer" (col. 4, lines 11-13). The inputs to the PM block include "indications of activity from the physical layer" (col. 4, line 66). By all indications, Nykanen's physical layer is operational at all times, in conventional fashion. Nykanen explains that if the power management block "detects activity on the infrared link", then the power management block "will wake the IrLMP and IrLAP layers" (Nykanen, col. 5, lines 38-40). Accordingly, the "low-power sleep mode" referred to in the Nykanen passage is not a low-power mode of an IrDA transceiver module. It is a low-power sleep mode due to relative inactivity of software execution in certain upper layers of the IrDA stack. This type of sleep mode has nothing to do with Applicant's claimed invention. Nykanen nowhere discloses or suggests an IrDA transceiver module having two different power consumption modes³.

Reconsideration and withdrawal of the §103 rejection of Claims 50-57 over the combination of Nykanen and Kohler is requested. Combining Nykanen and Kohler as hypothesized by the Examiner would not have resulted in Applicant's claimed invention.

Objective Evidence of Non-Obviousness

Just because it might be possible to find isolated disclosures that can be combined in such a way as to produce a claimed combination, does not mean that the combination is unpatentable under 35 U.S.C. §103. A hypothetical combination of selected parts of five paper documents from the files of the Patent Office does not necessarily mean that the claimed combination was "obvious" out in the real world. The Court of Appeals for the Federal Circuit has stated that objective evidence of non-obviousness may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was in fact not obvious.⁴

³ The Examiner is thanked for responding to Applicant's question. The Examiner's pointing to a specific passage in Nykanen has allowed Applicant to address the issue directly.

⁴ Stratoflex, Inc. v. Aeroquip Corp., 218 USPQ 871 (Fed.Cir. 1983).

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In the present application, the factual situation out in the real world indicates that despite the pieces of paper identified by the Examiner, the claimed invention was, and remains to this day, "nonobvious." As set forth in the Declaration of Alan Grace, Zilog has for each of the past five years sold approximately one million dollars worth of IrDA transceiver modules having the novel IrDA discovery signal detector circuit. As set forth in the Declaration of Alan Grace, Mr. Grace believes⁵ that a substantial proportion of these sales are purchased at least in part due to the low-power sleep mode capability. Despite Zilog's commercial success selling these transceivers each year, there is as of yet no company other than Zilog that has IrDA transceivers on the market that have the desired low-power sleep mode capability⁶.

One million dollars per year is a significant amount of money for Zilog. If, as the Examiner asserts, making an IrDA transceiver with the low-power sleep mode was "obvious", then presumably other IrDA transceiver manufacturers would have seized upon the economic opportunity and would have introduced their own IrDA transceivers with the desired low-power feature. After all, the Examiner asserts such would have been "obvious."

The objective evidence of record, however, indicates that this did not happen. Zilog, to the best of Mr. Grace's knowledge, is still the only manufacturer that has an IrDA module with the desired low-power mode. Each year, Zilog sells about one million dollars of this product, yet the competition has not stepped in and introduced a competing device. The factual situation, as evidenced by the declaration of record, appears to be inconsistent with the

⁵ Mr. Grace is the principal engineer at Zilog overseeing the design of Zilog's IrDA transceiver modules. Items 11 and 12 of Mr. Grace's declaration indicate that Mr. Grace considers himself well informed and knowledgeable about the IrDA transceiver modules on the market. The declaration indicates that it is one of Mr. Grace's job responsibilities to keep himself aware of the technical capabilities of the IrDA transceivers on the market.

⁶ Item 13 of Mr. Grace's declaration indicates that to Mr. Grace's knowledge, no company other than Zilog Inc. has ever produced an IrDA transceiver module having an IrDA discovery signal detection circuit, a low-power sleep mode and a higher-power operation mode, wherein the IrDA discovery signal detection circuit, upon detecting a 9600 baud IrDA discovery signal, switches transceiver operation from the low-power sleep mode to the higher-power normal operation mode.

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Examiner's assertion that Applicant's invention is "obvious."

On pages 8 and 9 of the Office Action, the Examiner discusses the submitted objective evidence of non-obviousness. After mentioning the requirement of a "nexus," the Examiner states "Item 9 of the declaration **does provide some** underlying reasoning that when compared to the facts presented by the examiner in the rejection are not persuasive of nonobviousness due to the commonplace concepts and desirability's of having power sleep modes in power limited transceivers" (emphasis added). Applicant is somewhat baffled by the Examiner's brushing off of the objective evidence submitted. There is indeed a nexus between the submitted evidence and the claimed invention. In at least one identifiable situation⁷, customer interest was directly attributed to the claimed invention. This is exceedingly strong evidence of a nexus. Applicant asks: Does it make sense that it was "obvious" to provide a feature that appears to have resulted in approximately one million dollars of sales per year of sales of IrDA transceivers for Zilog, and yet for five years the competition has failed come out with an IrDA transceiver having the feature? Applicant submits that it makes a lot more sense that the invention was in fact not "obvious" to those of ordinary skill. It makes a lot more sense that the invention is still not "obvious" to those of ordinary skill, despite the invention's being on the market and sought after for five years. What countervailing evidence does the Examiner have? Applicant submits he has none.

Alan Grace has considerable knowledge and experience in this field. A fair and reasoned reconsideration of objective evidence is requested.

The §112, First Paragraph Rejection

Claims 53-55 stand rejected under 35 U.S.C. §112, first paragraph, for

⁷ See Item 9 of the declaration of Mr. Grace. A customer indicated to Mr. Grace that the customer wanted to buy more expensive Zilog IrDA modules rather than less expensive Zilog IrDA modules that otherwise met the customer's performance requirements. The customer told Mr. Grace that they wanted the more expensive modules because those modules had the low-power sleep mode feature, whereas less expensive modules did not have the low-power sleep mode.

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failing to comply with the written description requirement. The Office Action states "regarding claim 53, support could not be found in the original specification for a limit of having only one IR receiver." Claims 54 and 55 are rejected because they depend from claim 53 and therefore contain the same "unsupported limitation".

In response, Applicant draws the Examiner's attention to Figure 5 and to the statement on page 9 of Applicant's specification, line 18, that "only a single Ir receiver 42 is required". Withdrawal of the §112 rejection of Claims 53-55 is requested.

No Prima Facie §103 Rejection Of New Claims 51-57

New Claims 51-57 include numerous recitations not found in previously presented independent Claim 50, yet the present §103 rejection is just a block copy of the typed rejection statements made in the prior Office Action before new Claims 51-57 were added. The present rejection does address the newly added recitations. The present rejection therefore does not amount to a *prima facie* rejection under 35 U.S.C. §103.

Claim 51, for example, recites an "IrDA discovery signal detection circuit". This circuit generates a specifically recited "power-up signal" upon detection of a "9600 baud IrDA discovery signal". The recited "power-up signal" causes the "IrDA transceiver module" to switch from the low-power mode to the full-power mode. The Examiner has not identified an "IrDA discovery signal detection circuit." The Examiner has not identified the recited "power-up signal".

Claim 52 recites a "low-power listening mode", and further recites that switching from the low-power mode to the full-power mode "enables the IrDA transceiver module to generate an IrDA transmission". The Examiner has not gone through this claim and set forth where the "enables...to generate an IrDA transmission" recitation is found in the cited references. As such, the present rejection does not amount to a *prima facie* rejection under 35 U.S.C. §103.

Claim 53 recites that the IrDA transceiver module "includes only one

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infrared receiver". Nowhere does the Examiner identify where the subject matter of this claim is found in the cited references. The present §103 rejection therefore does not amount to a *prima facie* §103 rejection of Claim 53.

Claims 54 and 55 clearly and specifically recite a "comparator." The Examiner has not pointed to a comparator in any cited reference. Moreover, Claim 54 recites that the comparator has a first "low-power state" and a second "high-power state". Nowhere does the Examiner cite a comparator having two power states. As such, the present rejection does not amount to a *prima facie* §103 rejection.

In summary, Applicant respectfully requests that the Examiner treat each an every recitation of each of Claims 51-57, and set forth where the each recitation is found and in which reference. The rejections of Claims 50-57 as they stand now do not amount to *prima facie* rejections under 35 U.S.C. §103.

New Claims 58-60

Consideration and allowance of new Claims 58-60 is requested.

Claim 58 recites an "IrDA transceiver" wherein "detection of the 9600 baud signal" causes the IrDA transceiver to be "enabled for full infrared signal receipt" (emphasis added). Claim 59 recites an "IrDA transceiver" having "means for enabling full infrared signal transmission and receipt upon detection of a 9600 baud IrDA discovery signal" (emphasis added). Claim 60 further recites that the "means" of Claim 59 "detects the 9600 baud IrDA discovery signal and thereupon increases an amount of power supplied to the infrared receiver circuitry".

The subject matter of new Claims 58-60 is nowhere disclosed or suggested in the cited references.

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Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully submits that the present application (claims 50-60 are pending) is in condition for allowance.

1. There is no recognition of the problem in any of the cited references. As such, one of ordinary skill would not have been motivated to try to combine references to solve it.

2. The §103 rejections are improper because the picking and choosing engaged in by the Examiner to recreate Applicant's claimed invention is not suggested by the prior art, but rather by the Examiner's hindsight knowledge of Applicant's claims.

3. Nykanen does not anywhere either disclose or suggest an IrDA transceiver module having two different power consumption modes, and as such the Examiner's Nykanen/Kuhla combination fails to meet all the claim limitations.

4. The objective evidence of non-obviousness constitutes strong evidence that the claimed invention was indeed not "obvious". Moreover, it is not "obvious" to this day.

A Notice of Allowance is requested. If the Examiner would like to discuss any aspect of this application, the Examiner is requested to contact the undersigned at (925) 621-2115.

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail on the date indicated below and is addressed to:

Commissioner for Patents
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Respectfully submitted,

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